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Tilgner, J. T.

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TIIGNER, J.

TIIGNER, J. The analysis of the dynamics of smoking food products on the basis of physicochemical tests. p. 461. Vol. 10 no. 11, Nov. 1956  
PRZENSL SPOZYWOZY, Warszawa Poland

SOURCE: East European Accessions List (EEAL) Vol. 6 No. 4 April 1957

TIL'GOR, N. K.

TIL'GOR, N. K. --"The Effect of Phosphoric-Acid Nutrition Conditions  
on Carbon-Phosphorous Metabolism." Sub 21 Nov 52, Moscow Order of Lenin  
State U imeri M. V. Lomonosov. (Dissertation for the Degree of Candidate  
in Biological Sciences).

SO: Vechernaya Moskva January-December 1952

*deceased*  
BASLAVSKAYA, Sarra Saulovna; BORODULINA, Frida Zakharovna; POTAPOV, Nikolay Gavrilovich; TIL'GOR, Nikolay Karlovich [deceased]; TRUBETSKOVA, Ol'ga Mikhaylovna; SOKOLOVA, N.A., red.; LAZAREVA, L.V., teacher, red.

[Brief laboratory manual on plant physiology] Malyi praktikum po fiziologii rastenii. Izd.4., perer. Moskva, Izd-vo Mosk. univ., 1961. 68 p.  
(MIRA 14:8)  
(Plant physiology—Laboratory manuals)

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Losses of electric energy. Energija Hrv 11 no.9/10:315-323 '62.

1. "Elektra", Zagreb, Gunduliceva 32.

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Fourth Conference of Economists of Electric Power Industry of  
Yugoslavia. Energija Hrv 13 no. 1/2:55-59 '64.

TILIC, I.

Postwar development of trawling on our coasts. p. 160

MORSKO TIRARSTVO. (Udrusenje morskog ribarstva Jugoslavije) Rijeka,  
Yugoslavia. Vol. 11, no. 8, Aug. 1959

Monthly List of East European Accessions (EEAL) LC Vol. 9, no. 2  
Feb, 1960

Uncl.

TILIC, I.

Economic research on fishing.

p. 255 (Morsko Ribarstvo. Vol. 3, no. 8, Aug. 1956. Rijeka, Yugoslavia)

Monthly Index of East European Accessions (EEA) Vol. 7, no. 2,  
February 1958

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Reward systems in fishing. p. 281.  
(GLASNIK, Vol. 8, No. 9, Sept., 1956) (Published 1957)

SO: Monthly List of East European Accessions (EEAL) LC Vol. 6, No. 12, Dec. 1957  
Uncl.

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Fish meal. p. 187  
(GLASNIK, Vol. 9, No. 7, July 1957)

SO: Monthly List of East European Accessions (EEAL) LC Vol. 6, No. 12, Dec. 1957  
Uncl.

TIIIC, I.

A discussion on the lecture by the academic Mijo Kirkovic.

p. 257 (Morsko Ribarstvo. Vol. 8, no. 8, Aug. 1956. Rijeka, Yugoslavia)

Monthly Index of East European Accessions (IME) I.C. Vol. 7, no. 2,  
February 1958

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Results of an inquiry. p. 12. MORSKO RIBARSTVO. (Udruzenje morskog  
ribarstva Jugoslavije) Rijeka. Vol. 8, no. 1, Jan. 1956

So. East European Accessions List      Vol. 5, No. 9      September, 1956

TILIC, I.

Fishing with Danish seines. p. 85. MORSKO RIBARSTVO.  
(Udruzenje morskog ribarstva J. "gospavije) Rijeka.  
Vol. 8, no 3, March 1956.

SOURCE: East European Accessions List (EEAL),  
Library of Congress Vol. 5, no.11, Nov., 1956.

TILIC, I.

The Dutch Association of Fishermen. p. 121

Found in Vol. 8, no. 4, April 1956  
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The economic and profit aspects of fishing. p. 408.  
(Gozdarski vestnik, Vol. 8, No. 12, Dec. 1956, Ljubljana, Yugoslavia)

SO: Monthly List of East European Accessions (EEAL) Lc. Vol. 6, No. 8, Aug 1957. Uncl.

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Proposed regulations for rewarding successful fishermen. p. 93.  
(Gozdarski vestnik, Vol. 9, No. 3, Mar. 1957, Ljubljana, Yugoslavia)

SO: Monthly List of East European Accessions (EEAL) Lc. Vol. 6, No. 8, Aug 1957. Uncl.

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Results of an inquiry among fisherman retired because of age. p. 94.  
(Gozdarski vestnik, Vol. 9, No. 3, Mar. 1957, Ljubljana, Yugoslavia)

SO: Monthly list of East European Accessions (EEAL) Lc. Vol. 6, No. 8, Aug 1957. Uncl.

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TJLIC, I. Production and consumption of marine fish in relation to the population. p. 141.

Vol. 8, No. 5, May 1956.  
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AGRICULTURE  
Rijeka, Yugoslavia

So: East European Accession, Vol. 6, No. 2, February 1957

TILIC, I.

TILIC, I. The school for the canning industry in Norway. p. 153.

Vol. 8, No. 5, May 1956.

MORSKO RIBARSTVO

AGRICULTURE

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So: East European Accession, Vol. 6, No. 2, February 1957

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Fishing in Turkey. p. 12 (GLASH-K, Vol. 6, no. 1/2, 1954, ~~ed. rrai,~~  
Yugoslavia)

OL: Monthly list of East European Accessions, (EEAL), LC, Vol. 4, no. 1  
Jan. 1955, Uncl.

TILIC, I.

"Difference in Achievements of Two Neighboring Traveling Fleets," p. 100,  
(Croat RIBAR-TV, Vol. 4, No. 9/10, 1954, Zagreb, Yugoslavia)

See: Monthly List of East European Accessions (EEL), IC, Vol. 7, No. 3,  
March 1955, Doc. 1.

TILIC, I.

"Large purse nets and their lucrativeness", p. 9 (Morsko Ribarstvo, Vol. 5, no. 1/2,  
1953, Zagreb)

SO: Monthly List of ~~Received~~ Accessions, Library of Congress, September 1953, Uncl.  
East European Vol. 2, No 9

TIIIC, I.

"Profit-sharing Contracts," p. 69. "New Instructions for Trading," p. 71.  
(Morsko Risanstvo, Vol. 5, no. 5/6, 1953, Zapros)

SU: Monthly List of East European Accessions, Vol. 3, No. 3. Library of Congress, March 1954.  
Uncl.

Distr: 4E2c  
Preparation of a high-quality precipitated calcium carbo-  
nate // E. Kimmel and M. Tilich. Rev. chim. (Bucharest)  
9, 153-4 (1958) (English summary). CaCO<sub>3</sub> was prep'd. by  
carbonating a suspension of CaO in H<sub>2</sub>O. The quality of  
the product improved with increasing temp. (up to 133°,  
2 atm.) and with decreasing CaO concns. (4% CaO).  
Gary Gerard

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DK

RUMANIA / Chemical Technology. Chemical Products and H  
Their Applications. Soda Industry.

Abs Jour: Ref Zhur-Khimiya, 1959, No 4, 12364.

Author : Kimmel, E.; Tilica, N.

Inst : Not given.

Title : Obtaining High-Quality Precipitate Calcium Carbonate.

Orig Pub: Rev. Chim., 1958, 9, No. 3, 153-155.

Abstract: Results are cited of laboratory experiments on the precipitation of  $\text{CaCO}_3$ . The influence of temperature during precipitation and concentration of  $\text{CaO}$  was investigated. Properties of the product are determined (apparent density, coefficient of precipitation, moisture, alkalinity and others). -- From the authors' resume.

Card 1/1

25

TILICHENKO, A.G., kand. tekhn. nauk (Khabarovsk); POGREBNOY, A.K., inzh.  
(Khabarovsk); MAZUR, N.N., inzh. (Khabarovsk)

Use of electronic computers for the calculation of technical  
norms in operational work. Zhel. dor. transp. 46 no.1:78  
(MIRA 17:8)  
Ja '64.

I. Nachal'nik sluzhby dvizheniya Dal'nevostochnoy dorogi  
(for Pogrebnoy).

DMITRENKO, V.I., dotsent (Khabarovsk); TILICHENKO, A.G., dotsent (Khabarovsk);  
YAKOVLEV, Ye.I., dotsent (Khabarovsk)

Computer center for the railroads of the Far East. Zhel.dor.transp.  
(MIRA 16:2)  
45 no.2:80 F '63.

1. Rektor Khabarovskogo instituta inzhenerov zheleznodorozhnogo  
transporta (for Dmitrenko).  
(Electronic computers) (Soviet Far East--Railroads--Making up trains)  
(Electronika)

TILICHENKO, A.G., kand.tekhn.nauk (Khabarovsk); POPSUDEV, A.V., kand.tekhn.nauk  
(Khabarovsk)

Possibility for increasing the weight norms for freight trains.  
Zhel.dor.transp. 47 no.10:27-30 0 '65.

(MIRA 18:10)

TILICHENKO, A.G., kand. tekhn. nauk, dots., otv. red.; BASHLAY,  
T.V., kand. tekhn. nauk, red.; BARNIN, Yu.I., red.

[Programming and electronics; a methodological manual]  
Programmirovaniye i elektronika; metodicheskoe posobie.  
Khabarovsk, 1963. 209 p. (MIRA 17:9)

1. Khabarovsk. Institut inzhenerov zheleznodorozhnoego  
transporta. Vychislitel'nyy tsentr.

POPSUYEV, A.V., kand.tekhn.nauk; TILICHENKO, A.G., kand.tekhn.nauk  
(Khaharovsk)

Uniform procedures for the operation of railroad and marine  
transportation. Zhel.dor.transp. 40 no.4:28-31 Ap '58.  
(MIRA 13:4)

(Freight and freightage) (Shipping) (Railroads--Management)

POPSUYEV, A.V. (Khabarovsk); TILICHENKO, A.G., kandidat tekhnicheskikh  
nauk (Khabarovsk)

Production-laboratory base for scientific investigations. Zhel.  
dor. transp. 38 no.10:83 0 '56. (MLRA 9:11)  
(Railroad research)

TILICHENKO, A. G.

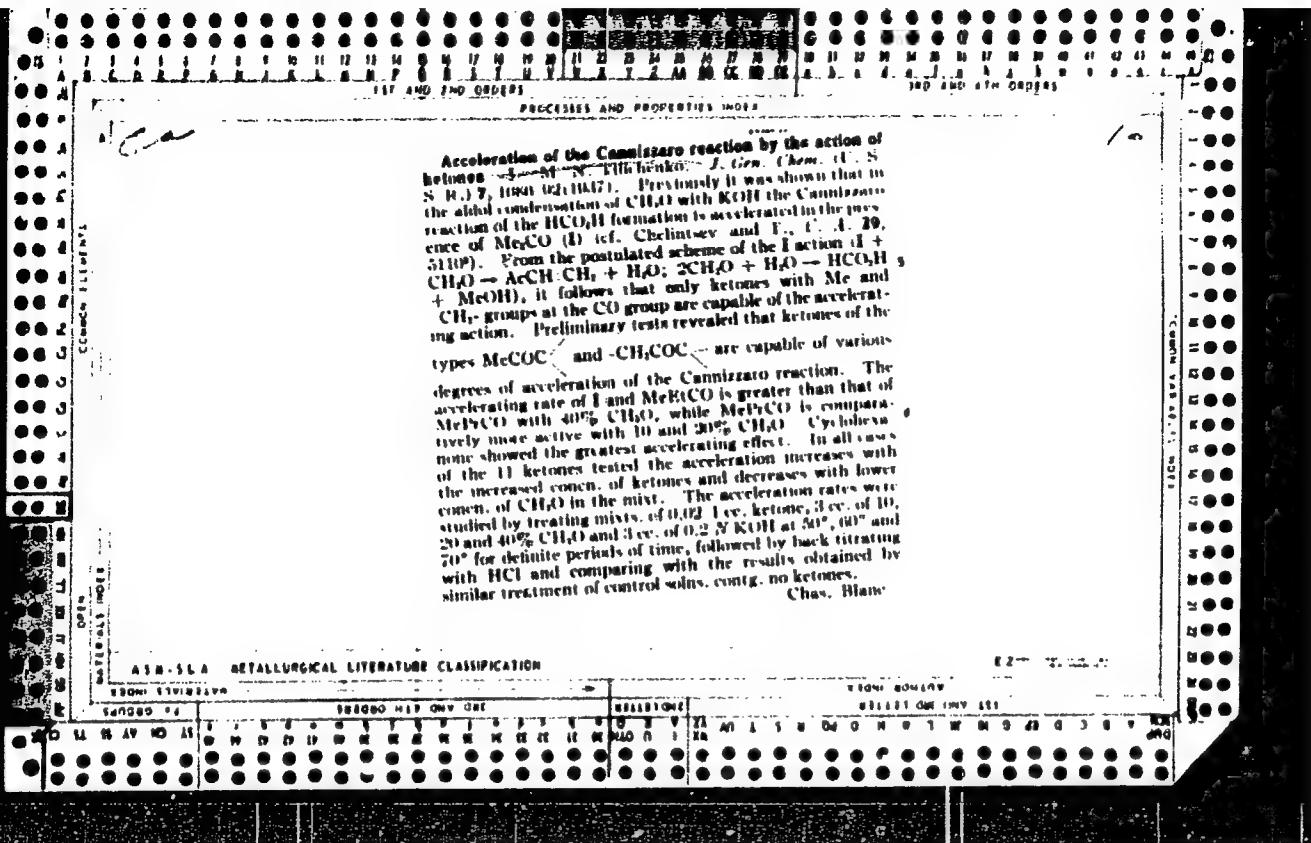
"Questions of the Mutual Agreement of the Traffic Schedule With Intermittent Arrivals of Loaded and Empty Cars on Mass Long-Haul Loading Sectors." Cand Tech Sci, Moscow Order of Lenin and Labor Red Banner Inst of Railroad Transport Engineers imeni I. V. Stalin, Min Railways USSR, Moscow, 1954. (KL, No 1, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)  
SO: Sum. No. 556, 24 Jun 55

NESTERENKO, G.T., kand. tekhn. nauk; SKOZOBISOV, B.S., inzh.; MIKHEYEV, V.P.,  
inzh.; TILICHENKO, A.M.

Effect of the angle of incidence on the stability of the exposed  
roof of chambers. Gor. zhur. no. 12:59-62 D '65. (MIRA 18:12)

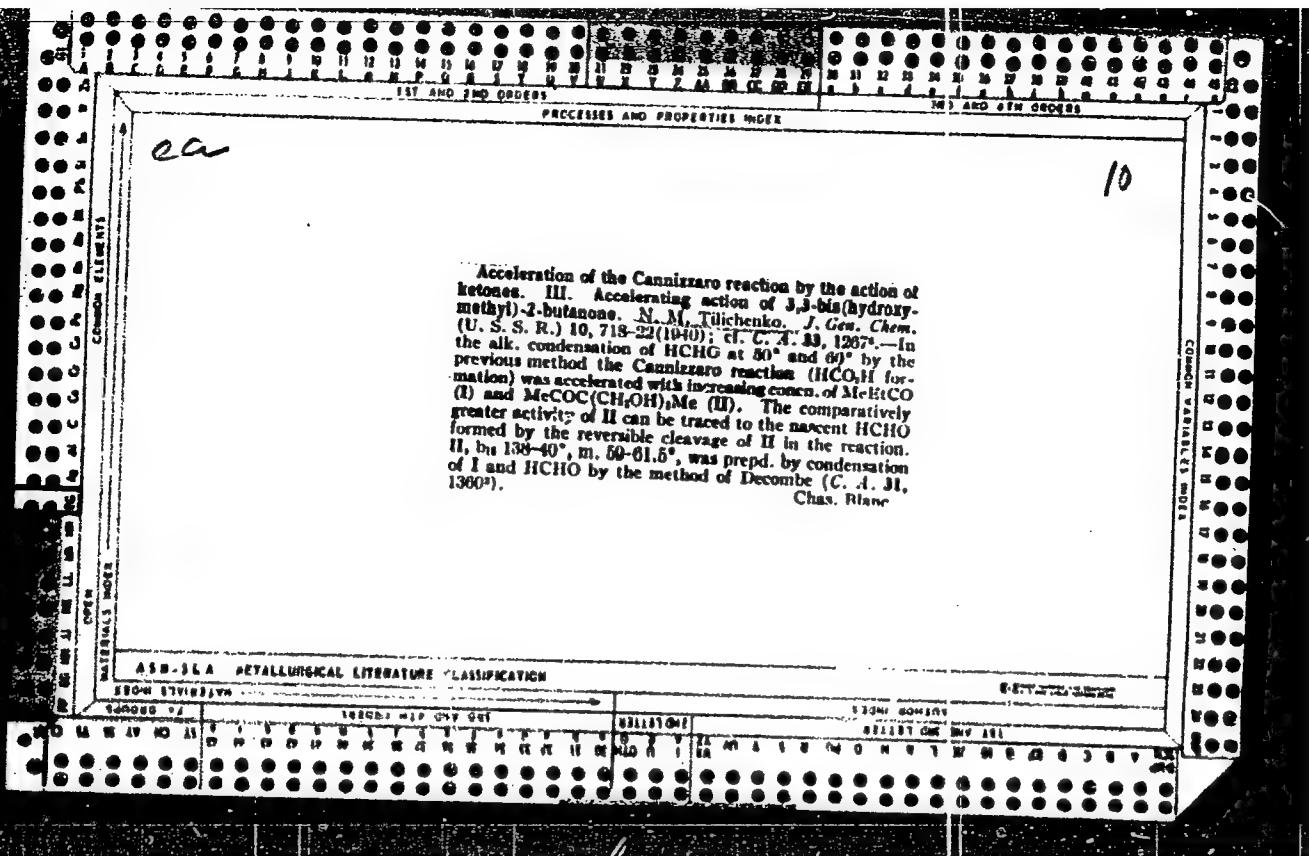
1. Vsesoyuznyy nauchno-issledovatel'sky marksheyderskiv institut,  
Leningrad (for Nesterenko, Skozobisov, Mikheyev). 2. Kombinat  
Achpolimetall, g. Kentau (for Tilichenko).



**Acceleration of the Cannizzaro reaction by the action of ketones. II. Dependence of the accelerating action on the quantitative ratios of ketones and formaldehyde.** M. N. Il'inskaya, *Zh. Org. Chem. (U. S. S. R.)* 8, 761-73 (1952); cf. *C. A.* 43, 10119. Again, tabulated exp. data on the addol condensation of  $\text{C}_6\text{H}_5\text{CO}$  with KOH show that the acceleration of the Cannizzaro reaction increases with the increased concn. of ketones ( $\text{Me}_2\text{CO}$ ,  $\text{MeCOPh}$  and cyclohexanone) and decreases with lower concn. of  $\text{CH}_3\text{CO}$  in the mixt.

**APPROVED FOR RELEASE: 07/16/2001**

CIA-RDP86-00513R001755710001-4"



CA

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*Condensation of cyclohexene with organic acids.* M. N. Filichenko (N. G. Chernyshevskiy State Univ., Saratov) Zhur. Obshchey Khim. (USSR) Gen. Chem.) 20, 2132 (1950). Condensation of cyclohexene (I) with AcOH under the influence of  $ZnCl_2$ ,  $AlCl_3$ ,  $CdCl_2$ ,  $CoCl_2$ ,  $SeCl_2$ ,  $NiCl_2$ ,  $LiCl$ ,  $FeCl_3$ ,  $CeCl_4$ ,  $SnCl_4$ , 50% and 98%  $H_2SO_4$ , and  $H_3PO_4$  (d. 1.83) was studied. Acids, especially  $H_2SO_4$ , are much more effective than metal salts. The yield of the ester reaches a max. of about 60%, when 50%  $H_2SO_4$  is the catalyst, after 8-10 hrs. at 97-100°; longer heating leads to declining yields; thus this catalyst is comparable to  $BF_3$ . Use of 98%  $H_2SO_4$  leads to more rapid reaction and in 48 hrs a 15% yield is reached; no studies on the max. yield were made. In 4-hr. reactions in sealed tubes on a steam bath,  $Li$  and  $AcOH$ , in the presence of 10% (by wt.) of the above catalysts gave the following % yields:  $ZnCl_2$  17,  $AlCl_3$  11,  $CdCl_2$  4.6,  $CoCl_2$  5.6,  $SeCl_2$  1.5,  $CeCl_4$  2;  $NiCl_2$ ,  $LiCl$ , and  $SnCl_4$  gave 0%, 60%  $H_2SO_4$ , 38%, and  $H_3PO_4$  20%;  $SnCl_4$ ,  $AlCl_3$ ,  $ZnCl_2$ ,  $P_2O_5$ ,  $CeCl_4$ , and  $LiCl$  cause appreciable polymerization of I. In these comparative expts. the product was not isolated but the yields were detd. by titration of the residual acid with standard  $Ba(OH)_2$ . *1-Methylcyclohexene*, b. 106-8°,  $d_{4}^{20}$  0.8020,  $n_{D}^{20}$  1.4401 (by dehydration of 2-methylcyclohexanol; a small amt. of 2-normer was apparently present), heated with  $CH_3CO_2H$  as above but without catalysts gave both the expected ester and polymeric products from the hydrocarbon. The max. esterification, 24.4%, occurs in about 8 hrs. at 22-8°, and 45.5% in about 14 hrs. at 88-90°. G. M. Kosulapoff

1951

CA

10

The condensation of cycloolefins with organic acids. M.  
N. Tilichenko. *J. Gen. Chem. U.S.S.R.* 20, 2253-8 (1950)  
(Engl. translation).—See *C.A.* 45, 7020c. B.I., M.

CA

10

Condensation of formaldehyde with propiophenone. New type of condensation of monoketones with formaldehyde. M. N. Tikhchenko and N. K. Astakhova (N.G. Chernyshevskil State Univ., Saratov). *Doklady Akad. Nauk S.S.R.* 74, 951-3(1950).—Condensation of PhCOEt with H<sub>2</sub>CO in the presence of a large excess of the ketone and with no free CH<sub>2</sub>O permitted to exist in the mixt. for an appreciable time gave a quant. yield of CH(CHMe<sub>2</sub>)<sub>2</sub>, i.e. methylol formation was excluded by utilizing the fact that methylol derivs. even in mildly alk. media are subject to reversion to free CH<sub>2</sub>O and the original ketone, so that exclusion of free CH<sub>2</sub>O from the mixt. makes the existence of the methylol deriv. very improbable. To 3 moles PhCOEt in 0.3 N alc. NaOH (about 0.1 mole) was slowly added 1 mole 35% formalin with good stirring at 70° [after addn. of 0.8-1.0 ml. a Rimini test was made and the reaction was continued only if the test was neg. (no free CH<sub>2</sub>O)], the mixt. carefully neutralized with *N* H<sub>2</sub>SO<sub>4</sub>, the heavy oil sepd., and the upper layer freed of EtOH and residue extd. with Et<sub>2</sub>O; the combined org. soln., after washing with H<sub>2</sub>O, yielded unreacted PhCOEt and 97.7% CH(CHMe<sub>2</sub>)<sub>2</sub>, b. 103-8°; on standing the oil gave a solid fraction, m. 62-3° (from petr.

[ether], b.<sub>25</sub> 203.5° (*disemicarbazone*, C<sub>11</sub>H<sub>18</sub>O<sub>4</sub>N<sub>2</sub>, decomp. 191-3°); the liquid residue b.<sub>25</sub> 207.5-11.5°, m. -14°, d<sub>25</sub><sup>20</sup> 1.0480, n<sub>D</sub><sup>20</sup> 1.5470 (*disemicarbazone* decomp. 180-7°). The 2 products apparently represent the partly resolved stereoisomeric forms of the diketone, described only imperfectly by Bauer (C.A. 8, 3011). Br titration failed to reveal any enol forms.

G. M. Kosolapoff

TILICHENKO, M.N.

USSR /Chemistry - Plastics

Nov 51

"Condensation of Acetone With Formaldehyde," M. N. Tilichenko, A. F. Duganova, Lab of Org Chem, Saratov State U imeni N. G. Chernyshevskiy

"Zhur Prikl Khim" Vol XXIV, No 11, pp 1196-1201

~~Preparation of heptitol (anhydroenaneheptitol) (I) by condensation of acetone with HCOH in presence of (a) BaOH, (b) NaOH. By evapn of sq and alc solns of I in presence of small amt of H<sub>2</sub>SO<sub>4</sub>, I was easily converted into polyanhydroenaneheptitol, while evapn in presence of HCOH resulted in formation of acetalized dimer. These compds were~~

20477

USSR /Chemistry - Plastics (Contd)

Nov 51

~~colorless, very viscous syrups capable of forming gel with H<sub>2</sub>O. Method (b) was more rapid. Discusses reaction mechanism.~~

20477

TILICHENKO, M. N.

USSR/Chemistry - Formaldehyde

Nov 51

"Condensation of Menthone With Formaldehyde," M. N. Tilichenko, I. A. Evdokimova, Lab of Org Chem, Saratov State U imeni N. G. Chernyshevskiy

"Zhur Prik Khim" Vol XXIV, No 11, pp 1217-1219

Menthone could be easily condensed with HCOH in alc medium under action of small amts of NaOH to yield inner hemiacetal of (2-methylol-2,2'-dimentholyl)-methane. Isolated product and proposes most probable scheme of its formation, which differs substantially from Tollens' scheme describing mechanism of condensation of HCOH with monoketones (and aldehydes).

204T10

TILICHENKO, M. N.

Astakhova, N. K., Tilichenko, M. N.- "Condensation of formaldehyde with ketones and aldehyde. Synthesis of 5, 7-dimethyl -4,8-diphenyl-undecadiene -1,10- diol - 4,8." (p. 1810)

SO: Journal of General Chemistry, (Zhurnal Obshchei Khimii), 1952, Vol. 22, No. 10

TILICHENKO, M. N.

Chemical Abst.  
Vol. 48 No. 8  
Apr. 25, 1954  
Organic Chemistry

(2) 5  
Condensation of formaldehyde with ketones and aldehydes. Synthesis of 5,7-dimethyl-4,8-diphenyl-1,10-undecadiene-4,8-diol. N. K. Atukhova and M. N. Tili-  
chenko. J. Gen. Chem. (U.S.S.R.) 22, 1810-60 (1952)  
(Engl. translation). See C.A. 47, 5380h. H. L. H. —

(A)

31

Chemical structure of cyclohexanone-formaldehyde resins M. N. Tilichenko and L. V. Zykova (N. G. Chernyshevskii State Polytechnic Institute, Saratov) *Zhur. Priklad. Khim.* (J. Applied Chem.) 25, 619 (1952). Reaction of cyclohexanone (I) with  $\text{CH}_2\text{O}$  yields water-sol. products if run in the presence of a const. excess of  $\text{CH}_2\text{O}$  even in very alk. solns; in cases where I is in excess the products are directed toward formation of insol. viscous materials. For best results formalin is dropped gradually into the mixt. at 17-20° in 5 N, or higher, NaOH, when 90-100% yields based on I are attained. The primary process is polycondensation of  $\text{CH}_2\text{O}$  with I by a Tollens-type process when the sol. products are formed; the formation of insol. products is a rapid  $\text{CH}_2$  bridging in the  $\alpha$ -positions. Fractional pptn applied to a typical specimen shows that progressive pptn yields fractions whose m.p.s. decline (from 143.5° to 58.0°), mol. wt. declines (910 to 370) and whose  $\text{Cl}/\text{OH}$  content declines at first, then rises slightly. Thus the more sol. material contains  $\text{CH}_2$  cross links with gem-methylol groups.  
G. M. Kovalapoff

"APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755710001-4

*Chloromethylation of aryl aliphatic ketones. M. N.*

Tilichenko and V. A. Popova. *J. Gen. Chem. U.S.S.R.*

15:17(1952)(Engl. translation).—See C.A. 48, 837c.

H. L. H. —

APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755710001-4"

TILICHENKO, M.N.; POPOVA, V.A.

Chloromethylation of aryl aliphatic ketones. Zhur. Obshchey Khim. 23,  
118-21 '53.  
(CA 48 no.2:637 '54) (MLRA 6:3)

"APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755710001-4

USSR

Formation of ketone-aldehyde resins in polycondensation of acetophenone with formaldehyde  
M. N. Tikhonov and P. M. Bulychev / Vsesoyuznyi nauchno-issledovatel'skiy i konstruktorskii zavod po sinteticheskim plasticheskim massam imeni D. L. Bi

APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755710001-4"

TILICHENKO, M. N.

Chemical Abst.  
 Vol. 48 No. 9  
 May 10, 1954  
 Synthetic Resins and Plastics

(3) *Malls - Chem*

Formation of ketone-aldehyde resins in polycondensation of acetophenone with formaldehyde. M. N. Tilichenko and M. M. Buzanova (M. G. Chernyshev State Univ., Saratov). Zhur. Priklad. Khim. 27, 77-82 (1954).—In condensation of HCHO with AcPh with excess of the latter, the reaction leads not to (hydroxymethyl) derivs. of AcPh but to viscous resinous substances and the reaction is a polycondensation. Hence the usual formulation of the Follens reaction between HCHO and ketones or aldehydes must be extended to polycondensations as well. The main reaction is the formation of polymers with units: —CH-Bz-CH<sub>2</sub>—, along with a relatively minor reaction: (Bz-

$\text{CH}_2\text{CH}_2)_n\text{CH}_2\text{Bz}$  + HCHO  $\rightarrow$   $\text{CH}_2\text{Bz}.\text{CH}_2.\text{C}(\text{Bz})(\text{CH}_2\text{CH}_2\text{Bz}).\text{CH}_2.\text{O}.\text{CH}_2$  (I), or analogous O-contg. ring structures. In a typical run 1 mole AcPh in EtOH soln. of 0.2 moles NaOH was treated gradually with formalin (1.5 moles CH<sub>2</sub>O) at 50°, after which the mixt. was neutralized with H<sub>2</sub>SO<sub>4</sub> and the resinous bottom layer was taken up in Et<sub>2</sub>O, dried, and evapd., yielding the solid resin of soft glassy character. The product contains 78% C, 6.3% H, 0.82-1.13% HO, and had mol. wt. 410, with zero ic-line no. Fractional pptn. from CCl<sub>4</sub> with petr. ether gave fractions which changed progressively from hard glasses to viscous sirups, the highest m.p. being 124°. Only 5% of high-melting material was found, some 41% being the liquid form. The higher-melting fractions were free of HO groups; the lower fractions contain 0.7%-2.1% HO groups. The mol.-wt. range was 489-378. The highest-melting

fraction appears to be essentially  $\text{BzCH}_2.\text{CH}_2.\text{O}.\text{CH}_2.\text{C}$

$\text{CH}_2\text{C}(\text{Bz}).\text{CH}_2.\text{O}.\text{CH}_2.\text{O}.\text{CH}_2(\text{Bz}).\text{CH}_2$ ; the fraction, m. 108.5°, is I, while the syrup appears to be essentially  $(\text{BzCH}_2\text{CH}_2)_n\text{CH}_2\text{Bz}$ . G. M. Kosolapoff

USSR/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 849

Author: Tilichenko, M. N.

Institution: None SARATOVSKIY gosudarstvennyy UNIV.

Title: Condensation of Aldehydes with Ketones. II. Synthesis and Thermal Splitting of 1,5-diketones

Original

Periodical: Zh. obshch. khimii, 1955, Vol 25, No 13, 2503-2509

Abstract: The condensation of  $\text{CH}_2\text{O}$  (I),  $\text{CH}_3\text{CHO}$  (II), propionaldehyde (III), iso-butyraldehyde (IV) with acetophenone (V) leading to the formation of 1,5-diketones was investigated. It is proposed to name this reaction diketone condensation. The diketones formed subsequently underwent thermal splitting at  $245-315^\circ$ ; cleavage occurred at the C-C bond in the  $\beta$  position to the CO-group. The ease of cleavage decreases in the order arylidene-, alkylidene-, methylene-diketone. Condensation was carried out under the same conditions as described previously (Dokl. AN SSSR, 1950, Vol 74, 951). From 12 moles of 34% I and V

Card 1/2

## USSR/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 849

Abstract: methylenediacetophenone (VI) was obtained in yields of 33%, mp 67-68°; in addition, the following were formed: dioxime, mp 164-166°; di-2,4-dinitrophenylhydrazone, mp 233° (decomposes). II yielded ethylidenediacetophenone (VII), mp 72-73°, dioxime, mp 166-168°; disemicarbazone, mp 208-209°. III yields propylidenediacetophenone, mp 85-86° and disemicarbazone, mp 207-209°. IV yields isobutylidenediacetophenone, mp 140-141°. By reacting NH<sub>2</sub>OH·HCl with VII and HCl with the dioxime of VII, 2,6-diphenyl-4-methylpyridine (VIII) was obtained; the yield in the first case is 92°, mp 66° (from alcohol); in addition a picrate, mp 183.5-184.5, is also formed; VIII·HCl, mp 199-204° (decomposes); VIII·H<sub>2</sub>SO<sub>4</sub>, mp 169-170°; VIII·HNO<sub>3</sub>, mp 172-174° (decomposes). The thermal cleavage of VI yields V and a resin which is probably formed by the polymerization of the vinylphenylketone. VII cleaves into V and ethylideneacetophenone, bp 107-109°/8 mm, 129-131°/20 mm, n<sub>D</sub><sup>20</sup> 1.5586, d<sub>4</sub><sup>20</sup> 1.0232; benzylideneacetophenone (mp 85°) yields V and benzalacetophenone; n-dimethyl aminobenzylidenediacetophenone (mp 124-125°) gives V and n-dimethyl aminobenzalacetophenone, mp 113-114° (from alcohol); methylidenedipropiophenone (bp 207.5-211.5°/2.5 mm) yields isopropenylphenol ketone.

Card 2/2

"APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755710001-4

Condensation of aldehydes with ketones

APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755710001-4"

Til-Chen Ko, M.N.

✓ DI and non-  
✓ I. Inability

3. Calculate the decrease in  $\Delta G^\circ$  resulting from the presence of 0.03 mole and 0.52 mole of  $\text{CH}_3\text{OH}$ .

"APPROVED FOR RELEASE: 07/16/2001

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CIA-RDP86-00513R001755710001-4

T 1 A B N R C M N

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DATE 10-12-2007 BY SP2 JASPER

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APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755710001-4"

"APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755710001-4

*...diketones based on mono- and  
di-alkyl ketones*  
*by G. Khan*

APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755710001-4"

20-119-6-30/56

AUTHORS: Tilichenko, M. N., Vysotskiy, V. I.

TITLE: The Action of Formamide on Isomeric Methylene-Dicyclohexanone  
and Tricyclohexanolone (Deystviye formamida na izomernyye  
metilenditsiklogeksanon i tritsiklogeksanolon)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 119, Nr 6, pp.1162-1163  
(USSR)

ABSTRACT: When the authors acted upon the two latter compounds described  
in a previous work (Ref 1) with formamide, they obtained  
the same compounds under the conditions of the Leykart-re-  
action, that is to say, Simm-octohydroacridine and perhydro-  
acridine. This fact proves that tricyclo-hexanolone isomerizes  
into methylene-dicyclohexanone. The process proceeds with  
a sufficient speed in order to prevent the products of hydro-  
amination of tricyclohexanolone from forming. The determined  
reaction is interesting also in preparative respects: it pro-  
ceeds considerably easily and in a good yield (about 80 %)  
of bases, and is easily accessible, as well with regard to  
the technique of performance, as to the initial substances.

Card 1/2

20-119-6-30/56

The Action of Formamide on Isomeric Methylene-Dicyclohexanone and Tricyclohexanolone

This is the first example of applying the Leykart-reaction to the alicyclic 1,5-diketones. Formerly, it only could be applied to 1,5-diketones of the aliphatic and aryl-aliphatic series (Refs 6, 7). Then follows an experimental part with usual data. There are 9 references, 3 of which are Soviet.

ASSOCIATION: Saratovskiy gosudarstvennyy universitet im. N. G. Chernyshevskogo  
(Saratov State University imeni N. G. Chernyshevskiy)

PRESENTED: December 23, 1957, by B. A. Kazanskiy, Member, Academy of Sciences, USSR

SUBMITTED: June 27, 1957

Card 2/2

SOV/156-59-2-26/48

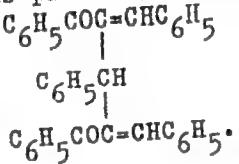
5(3)

AUTHOR: Tilichenko, M. N.

TITLE: The Acid Condensation of Benzal Diacetophenone With Benzaldehyde (Kislotnaya kondensatsiya benzal'diatsetofenona s benzal'degidom)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 2, pp 318-321 (USSR)

ABSTRACT: The condensation mentioned in the title led in a solution combined with sulfuric acid to the formation of 1,2,4-tri-phenyl-3,5-dibenzoyl-cyclopentene the structure of which was investigated in detail by systematic separation. In the condensation in hydrochloric acid also the hydrochloride of the mentioned compound is formed. In connection with the separation of the added HCl, a mixture of geometric isomers of dibenzylidene benzal diacetophenone, a yellow not crystallizing powder, forms probably as a result of the splitting up of rings:



Card 1/2

SOV/156-59-2-26/48

The Acid Condensation of Benzal Diacetophenone With Benzaldehyde

The experimental part mentions the operations of condensation and preparation in a pure state carried out under the assistance of V. P. Romanova and E. Yu. Drozdova as well as the analytical and physical data of the compounds obtained. There are 7 references, 3 of which are Soviet.

ASSOCIATION: Kafedra organicheskoy khimii Saratovskogo gosudarstvennogo universiteta im. N. G. Chernyshevskogo  
(Chair of Organic Chemistry, Saratov State University imeni N. G. Chernyshevskiy)

SUBMITTED: November 20, 1958

Card 2/2

5(3)

SCV/79-29-6-29/72

AUTHORS:

Tilichenko, M. N., Kharchenko, V. G.

TITLE:

Condensation of Aldehydes and Ketones (Kondensatsiya al'degidov i ketonov). III. Diketone Condensation of Cyclohexanone With Benzaldehyde, a New Way of Condensation of Alicyclic Ketones With Aromatic Aldehydes (III. Diketonnaya kondensatsiya tsiklogeksanona s benzal'degidom (novyy vid uplotneniya slitsiklicheskih ketonov s aromaticheskimi al'degidami))

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 6,  
pp 1909 - 1911 (USSR)

ABSTRACT:

The authors had already previously found (Ref 1) that the mono-arylidene-cyclanones are easily dimerized in alcoholic-alkaline media, and that the diarylidene-cyclanones add with the same readiness a molecule of cyclohexanone. Both reactions represent a condensation according to Michael (Scheme 1). Considering this fact it was not clear to the authors that in many papers (Refs 2-6) dealing with the condensation of the cyclanones with aromatic aldehydes only products of the aldol-croton condensation were described and that nobody observed the formation of the 1,5-diketones (I). The reason for this fact having been

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Condensation of Aldehydes and Ketones. III. Diketone SGV/73-29-6-29/72  
Condensation of Cyclohexanone With Benzaldehyde, a New Way of Condensation  
of Alicyclic Ketones With Aromatic Aldehydes

overlooked was, according to their opinion, that the aldol-croton condensation of the alicyclic ketones of the cyclohexanone type with benzaldehyde and other similar aldehydes, which usually takes place in alkaline-aqueous media, proceeds extremely readily, in which connection the products escape reaction owing to their small solubility in the media mentioned. The products of the aldol-croton condensation thus incidentally proved merely to be end products of the reaction. On the basis of this assumption, deriving from cyclohexanone and benzaldehyde, the condensation was carried out in a way that the mono- and dibenzal-cyclohexanones remained in the solution when being formed. In this way white crystals of compound (I) ( $\text{Ar}=\text{C}_6\text{H}_5$ ) recrystallize from the reaction solvent after storing for 2-3 days, according to the concentration of the alkali liquor. The diketone condensation (Ref 7) was thus shown to apply also to the condensation range of the alicyclic ketones with aromatic aldehydes. In the reaction products in addition to the diketone (I) also the nonanonol (II) was found (Scheme 2). From this it may be concluded that the reaction mixture contains only

Card 2/3

Condensation of Aldehydes and Ketones. III. Diketone      SCV/79-29-6-29/72  
Condensation of Cyclohexanone With Benzaldehyde, a New Way of Condensation  
of Alicyclic Ketones With Aromatic Aldehydes

a small quantity of monobenzal-cyclohexanone and that the forma-  
tion of 1,5-diketone (I) takes place mainly according to the  
Michael condensation of cyclohexanone with the resultant inter-  
mediates. There are 8 references, 4 of which are Soviet.

ASSOCIATION: Saratovskiy gosudarstvennyy universitet (Saratov State Univer-  
sity)

SUBMITTED: June 1, 1958

Card 3/3

AUTHORS: Tilichenko, M. N., Kharchenko, V. G. SGV/79-29-6-30/72

TITLE: Condensation of Aldehydes and Ketones (Kondensatsiya al'degidov i ketonov). IV. The Phenomenon of Furfurolysis in the Alkaline Condensation of Ketols and of 1,5-Diketone With Furfurol (IV. Yavleniye furfuroliza pri shchelochnoy kondensatsii ketolov i 1,5-diketona s furfurolom)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 6,  
pp 1911 - 1914 (USSR)

ABSTRACT: The authors previously observed (Refs 1,2) the interesting phenomenon that the compounds (I), (II), and (III) are rather readily transformed by furfurol to yield difural-cyclohexanone (IV) according to scheme 1. This splitting-up can be regarded as a furfurolysis, since the above compounds are not transformed under the same conditions without the addition of furfurol. It is of interest that such a splitting-up does not take place under the influence of benzaldehyde. The chemism of this process can be considered a combination of two main reactions: hydrolysis and condensation of the hydrolysis products with furfurol (Scheme 2(a,b)). Cyclohexanone and fural cyclohexanone, the products of reaction (b) are condensed with furfurol thus

Card 1/2

Condensation of Aldehydes and Ketones. IV. The SOV/79-29-6-30/72  
Phenomenon of Furfurolysis in the Alkaline Condensation of Ketols and of  
1,5-Diketone With Furfurole

yielding difural cyclohexanone. The alkaline cleavage of the cyclic  $\beta$ -ketols (cyclohexanones) into the 1,5-diketones was observed by W.Dierckmann and K.Fischer (Ref 4) and also by N. S. Berbulesku (Ref 5). This reaction seems to be opposite to the intramolecular aldol condensation which is in principle in the same way reversible as the intermolecular aldol condensation (Refs 6,7,9). Scheme 2(a,b) explains this furfurolysis as a process in which the furfurole binds the hydrolysis products (I),(II), and (III) with formation of the stable difural cyclohexanone (IV) sparingly soluble in alcoholic medium. Thus the equilibrium in the system is shifted towards the latter compound. In these processes the problem remains to be solved why no analogous splitting-up takes place under the action of benzaldehyde. There are 7 references, 4 of which are Soviet.

ASSOCIATION: Saratovskiy gosudarstvennyy universitet (Saratov State University)

SUBMITTED: June 2, 1958  
Card 2/2

PIT'GA, I. [Pitha, J.]; TILICHENKO, M. N.; KHARCHENKO, V. G.

Condensation of aldehydes and ketones. Part II: Configuration of  
4-R-2,3-cyclohexanobicyclo [3,3,1]-nonan-2-ol-9-ones. Zhur.  
ob. Khim. 34 no. 6. 1936-1938 Je '64. (MIKA 17:7)

1. Chekhoslovatskaya Akademiya nauk, Institut organicheskoy khimii  
i biokhimii, Dal'nevostochnyy gosudarstvennyy universitet i S.-  
tovskiy gosudarstvennyy politekhnicheskiy institut.

5 (3)

AUTHORS:

Tilichenko, M. N., Kharchenko, V. G. SOV/79-29-7-53/83

TITLE:

Condensation of Aldehydes and Ketones (Kondensatsiya al'degidov i ketonov). V. Synthesis of 9-Phenyl-perhydroacridine by the Action of Formamide Upon Phenyltricyclohexanolone (V. Sintez 9-fenil-pergidroakridina deystviem formamida na feniltritsiklogeksanolon)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr.7, pp 2370-2372  
(USSR)

ABSTRACT:

M. N. Tilichenko and V. I. Vysotskiy described the reaction of formamide with tricyclohexanolone (I) (Ref 1), which is the simplest representative of the carbonyl bridge ketols. The authors obtained these ketols by the diketone-condensation of cyclohexanone with aldehydes (Refs 2-4). The ketol (I) was isomerized previously to give the 1,5-diketone (III) by heating with formamide, which then reacted with formamide yielding perhydro-(V)- and symmetric octahydro-acridine (VII). Phenyltricyclohexanolone was easily prepared by the condensation of cyclohexanone with benzaldehyde (Ref 3) or monobenzalcyclohexane (Ref 3). It reacted similarly on heating with formamide and gave 9-phenylperhydroacridine(VI)and not the expected oxy-

Card 1/2

Condensation of Aldehydes and Ketones. V. Synthesis SOV/79-29-7-59/63  
of 9-Phenyl-perhydroacridine by the Action of  
Formamide Upon Phenyltricyclohexanolone

amine (VIII). Strangely enough the formation of the corresponding octahydroacridine, as was the case with the ketol, did not take place. The question as to whether this was due to the influence of the  $C_6H_5$ -group, or to a slight difference in the reaction conditions must still be investigated. The structure of 9-phenylperhydroacridine was verified by dehydrogenolysis over Pd/C to 9-phenylacridine. Although the reaction required a high temperature ( $320^\circ$ ), it proceeded smoothly and so quantitatively as to be conclusive for identification of the hydroacridine (6.6 Mol H of the theoretical 7 Mol hydrogen were separated). There are 7 references, 6 of which are Soviet.

ASSOCIATION: Saratovskiy gosudarstvennyy universitet (Saratov State University)

SUBMITTED: June 26, 1958

Card 2/2

## AUTHORS:

Tilichenko, M. N., Abramova, M. A.,  
Tegorova, M. Ye.

S/153/60/003/01/035/058  
B011/B005

## TITLE:

On a New Method of Producing Symm-9-methyloctahydroacridine, and on  
2 Isomeric Forms of 9-Methylperhydroacridine

## PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya  
tekhnologiya, 1960, Vol 3, Nr 1, pp 130-131 (USSR)

TEXT: The method mentioned in the title is based on a fusion of methyl-tricyclo-  
hexanolone (I) with hydroxylamine hydrochloride without a solvent (see Scheme).  
A decycloketolization of ketol (I) to ethylidene-dicyclo-hexanone (II) is as-  
sumed to take place at first. Only this (II) is transformed to symm-9-methylocta-  
hydroacridine (III) under the action of hydroxylamine hydrochloride. This is the  
first example for a transformation of  $\beta$ -cyclo-hexanolone into a pyridine base by  
hydroxylamine hydrochloride. The separation of 9-methylperhydroacridine into 2  
isomeric forms was obtained by crystallization of its hydrochloride from acetone  
to which a small quantity of alcohol was added. The two forms are obviously one  
of the theoretically possible pairs of cis- and trans-isomers of this compound.  
The experimental part offers characteristics and constants of the substances  
produced. There are 6 references, 4 of which are Soviet. V

Card 1/2

On a New Method of Producing Symm-9-methyloctahydro-acridine, and on 2 Isomeric Forms of 9-Methylperhydro-acridine

S/153/60/003/01/035/058  
B011/B005

ASSOCIATION: Saratovskiy gosudarstvennyy universitet im. N. G. Chernyshevskogo;  
Kafedra organicheskoy khimii (Saratov State University imeni N. G.  
Chernyshevskiy; Chair of Organic Chemistry)

SUBMITTED: February 20, 1959

Card 2/2

TILICHENKO, M. N.; KHARCHENKO, V.G.

Condensation of aldehydes and ketones. Part 6: Conversion  
of phenyl- and furyl tricyclohexanolones into 9-phenyl- and  
furyl hydroacridines. Zhur. ob. khim. 30 no.7:2283-2285  
(MIRA 13:7)  
J1 '60.

1. Saratovskiy gosudarstvennyy universitet.  
(Tricyclohexanone) (Acridine)

TILICHENKO, M.N.

Condensation of aldehydes and ketones. Part 7: Condensation of cyclohexanone with 1,3-bis(n-dimethylaminobenzal)-2-cyclohexanone. Zhur. ob. khim. 30 no.8:2562-2564 Ag '60. (MIRA 13:8)

1. Saratovskiy gosudarstvennyj universitet.  
(Cyclohexanone) (Condensation products)

TILICHENKO, M.N.

Condensation of aldehydes and ketones. Part 8: Synthesis of  
2, 6-diphenylisonicotinic acid based on the reaction of the diketonic  
condensation of acetophenone with acetaldehyde. Zhur. ob. khim. 31  
no.5:1558-1560 My '61. (MIRA 14:5)

1. Dal'nevostochnyy gosudarstvennyy universitet.  
(Isonicotinic acid) (Acetophenone) (Acetaldehyde)

TILICHENKO, M.N.; KHARCHENKO, V.G.; KRUPINA, T.I.

Condensation of aldehydes and ketones. Part 12: Conversion from  
benzylidenebenzaldehyde to 4-benzal-9-phenyloctahydro-

acridine. Zhur. ob. khim. 34 no.8:2721-2722 Ag '64.

(MIRA 17:9)

1. Dal'nevostochnyy gosudarstvennyy universitet, g. Vladivostok,  
i Saratovskiy politekhnicheskiy institut.

TILICHENKO, M.N.; SOBOLEVA, R.G.; DOMANYUK, T.M.; GAVRILOVA, B.K.

New insecticides; nitrogen bases from polymethylenopolycyclohexanone  
as insecticides against flies and horseflies. Soob. DVFAK SSSR 10,18,  
113-117 '63. (MIRA 17:11)

1. Dal'nevostochnyy filial imeni Komarova Sibirskogo otdeleniya AN  
SSSR.

163815-65  
ACCESSION NR: AP5008722

1/0366/65/001/003/0612/0613  
S  
B

AUTHORS: Kaminskiy, V. A.; Tilichenko, M. N.

TITLE: Aminocyaniding of methylene-2,2'-dicyclohexanone

SOURCE: Zhurnal organicheskoy khimii, v. 1, no. 3, 1965, 612-613

TOPIC TAGS: organic chemistry, organic derivative, aminocyaniding, methylene, dicyclohexanone

ABSTRACT: Aminocyaniding  $\delta$ -bicyclanones of the order of methylene-2,2'-dicyclohexanone has been accomplished by the method of N. D. Zelinskii and G. Stadnikov (ZhOKh, 39, 722, 1722, 1906), and 11,14-dicyanoperhydroacridine was obtained. Analytically determined content (%) was: C 73.82, 74.01; H 8.85, 8.76; N 17.19, 17.19. The calculated content (%) was: C 74.07; H 8.64; N 17.29. The verification of the reaction and the behavior of its product with  $H_2SO_4$  are briefly described. It is noted that in this reaction two cyan groups enter the molecules, whereas in the process of hydrocyaniding only one group does so, as is reported by M. N. Tilichenko and V. A. Kaminskiy (ZhOKh, 34, 356, 1964). Orig. art. baci 1 formula.

Card 1/2

L 63815-65

ACCESSION NR: AP5008722

ASSOCIATION: Dal'nevostochnyy gosudarstvennyy universitet, Vladivostok (Far East  
State University)

SUB CODE: 00

SUBMITTED: 100ct64 ENCL: 00

OTHER: 002

NO REF Sov: 005

KC  
Card 2/2

TILICHENKO, M.N.; PAVEL', G.V.

Condensation of aldehydes and ketones. Part 15: Aminomethylation  
of 1,5-diketones. Zhur. org. khim. 1 no.11:1992-1994 N '6'.  
(MIRA 18:12)

1. Dal'nevostochnyy gosudarstvennyy universitet, Vladivostok.  
Submitted November 13, 1964.

TILICHENKO, M.N.; ZAKRYZHEVSKAYA, L.T.

Conversion form tricyclohexanolone to hydroxytricyclohexylamine.  
Zhur. org. khim. 1 no.4:796-797 Ap '65. (MIRA 12:11)

1. Dal'nevostochnyy gosudarstvennyy universitet.

TILICHENKO, M.N.; BERPULESKU, N.S. [Barbulescu, N.]; VYSOTSKIY, V.I.

Condensation of aldehydes and ketones. Part 13: Transformation from  
tricyclohexenones to tricyclohexenylamines (new type of bridge  
amines). Zhur. org. khim. 1 no.1:93-97 Ja '65. (MIRA 18:5)

1. Bukharsatskiy gosudarstvennyy universitet imeni K.I.Parkhona :  
Dal'nevostochnyy gosudarstvennyy universitet.

L 63815-65  
ACCESSION NR: AP5008722

S/0366/55/001/003/0612/0613

87  
B

AUTHORS: Kaminskiy, V. A.; Tilichenko, M. N.

TITLE: Aminocyaniding of methylene-2,2'-dicyclohexanone

SOURCE: Zhurnal organicheskoy khimii, v. 1, no. 3, 1965, 612-613

TOPIC TAGS: organic chemistry, organic derivative, aminocyaniding, methylene, dicyclohexanone

ABSTRACT: Aminocyaniding  $\delta$ -bicyclanones of the order of methylene-2,2'-dicyclohexanone has been accomplished by the method of N. D. Zelinskiy and I. Stadnikov (ZhOKh, 39, 722, 1722, 1906), and 11,14-dicyanoperhydroacridine was obtained. Analytically determined content (%) was: C 73.8%, 74.01; H 8.85, 8.76; N 17.19, 17.19. The calculated content (%) was: C 74.07; H 8.64; N 17.29. The verification of the reaction and the behavior of its product with  $H_2SO_4$  are briefly described. It is noted that in this reaction two cyano groups enter the molecules, whereas in the process of hydrocyaniding only one group does so, as is reported by M. N. Tilichenko and V. A. Kaminskiy (ZhOKh, 34, 356, 1964). Orig. art. has: 1 formula.

Card 1/2

L 63815-65  
ACCESSION NR: AP5008722

ASSOCIATION: Dal'nevostochnyy gosudarstvennyy universitet, Vladivostok (Far East  
State University)

SUBMITTED: 100ct64

ENCL: 00

SUB CODE: 00

NO REF Sov: 005

OTHER: 002

HC  
Card 2/2

L 52549-65 ENT(m)/EPP(c)/ENF(j)/ENK(c) PC-L/IT-U ZIL JW/RM  
ACCESSION NR: AP5011193

UR/0366/65/001/004/0796/0797

27  
26  
B

AUTHORS: Tilichenko, M. N.; Zukryzhevskaya, L. T.

TITLE: Transition from tricyclohexanolone to oxytricyclohexylamine

SOURCE: Zhurnal organicheskoy khimii, v. 1, no. 4, 1965, 796-797

TOPIC TAGS: amine, organic synthesis, reduction method

ABSTRACT: Attempts to use the Leuckart reaction to change R-tricyclohexanolones to R-oxytricyclohexylamines have proved unsuccessful. Instead of the expected hydroxylamines, perhydro- and sym-octahydroacridines are obtained. Reduction of the oximes of the indicated ketones by sodium and alcohol has been successful. This method has produced from tricyclohexanolone a base corresponding to 9-amino-2,3-cyclohexenol(3,3,1)bicyclonanol-2. The yield is 70%. The product is colorless, hexagonal, with a melting point of 155-156°C. The formula is C<sub>13</sub>H<sub>23</sub>NO. The hydrochloride, with a formula of C<sub>13</sub>H<sub>23</sub>NO·HCl has a melting point of 212-214°C. The picrate, C<sub>13</sub>H<sub>23</sub>NO·C<sub>6</sub>H<sub>3</sub>N<sub>3</sub>O<sub>7</sub> melts at 214-217°C. The n-acetylamine, C<sub>15</sub>H<sub>25</sub>NO<sub>2</sub>, melts at 176-177°C. The IR spectrum shows lines at 1650 (C=O), 3330 (NH), 1570, and 3440 cm<sup>-1</sup> (OH). The n-benzylideneamine forms readily when solutions of

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L 52549-65

ACCESSION NR: AP5011193

the hydroxyamine and benzaldehyde are poured into absolute alcohol. The formula  
is C<sub>20</sub>H<sub>27</sub>NO, the melting point 61-82°.

ASSOCIATION: Dal'nevostochnyy gosudarstvennyy universitet (Far Eastern State  
University)

SUBMITTED: 19Oct64

ENCL: 00

SUB CODE: (C, OC)

NO REF Sov: 001

OTHER: 000

Ref Card 2/2

TJLICHENKO, M.N.

Condensation of aldehydes and ketones. Part 14: Alkaline  
condensation of arylaliphatic 1,5-diketones with formaldehyde.  
Zhur. ob. khim. 35 no.3:443-447 Mr '65. (MIRA 18 4)

1. Dal'nevostochnyy gosudarstvennyy universitet, Vladivostok.

BERBULESKU, N.S. [Barbulescu, N.]; BEDITSE, G. [Badita, Gh.]; TILICHENKO, M.N.

New method of conversion of tricyclohexanol oximes and alicyclic  
1,5-dioximes to sym-octahydroacridines. Zhur.ob.khim. 33 no. 12:  
4027-4029 D 63. (MIRA 17:3)

1. Bukharevskiy gosudarstvenny universitet imeni Parkhona i Dal'-  
nevostochnyy gosudarstvenny universitet.

TILICHENKO, M.N.

Diketone condensation of cyclohexanone with formaldehyde homo-  
logs. Report No.3. Uch.zap. SGU 75:60-65 '62. (MIRA 17:3)

TILICHENKO, M.N.; KAMINSKIY, V.A.

Hydrocyanation of methylene-2,2'-dicyclohexanone. Zhur. ob. khim. 34  
no.1:356-357 Ja '64. (MIRA 17:3)

1. Dal'nevostochnyy gosudarstvennyy universitet, g. Vladivostok.

TILICHENKO, M.N.; DOMANYUK, T.M.

Functional reactions of polymethylenepoly(cyclohexanone). Zhur.  
prikl. khim. 36 no.4:890-895 Ap '63. (MIRA 16:7)

1. Laboratoriya organicheskogo sinteza Dal'nevostochnogo filiala  
Sibirskogo otdeleniya AN SSSR, Vladivostok,  
(Cyclohexanone) (Polymethylene compounds)

TILICHENKO, M.N.

Synthesis and some properties of polymethylenopolycyclohexanone.  
Zhur. fiz.-khim. 36 no.1:192-195 Ja '63. (MIRA 16:5)

1. Kafedra organicheskoy khimii Dal'nevostochnogo gosudarstvennogo  
universiteta, Vladivostok.  
(Cyclohexanone)

BARBULESCU, Em.; BARBULESCU, N.; TILICENKO, M.N.

Condensation of cyclohexanone with n- and i-butyric aldehydes.  
Fev chimie Min petr 12 no.11:631-636 N '61.

1. Universitatea C.I. Parhon, Bucuresti (for Em. Barbulescu,  
N. Barculescu).

TILICHENKO, M.N.; YEGOROVA, M.Ye.

Synthesis of hydroxyacridine bases. Part 2: Synthesis of 9-methyl-Bz, Bz-octahydroacridine. Uch.zap. SGU 75:68-71 '62.  
(MIRA 17:3)

TILICHENKO, M.N.; KHARCHENKO, V.G.

Dimerization of  $\alpha$ -arylidene cyclohexanones. Uch.zap. SGU  
75:65-68 '62. (MIRA 17:3)

S/080/63/036/001/019/026  
D204/D307

AUTHOR: Tilichenko, M.N.

TITLE: Synthesis and some properties of poly-methylene polycyclohexanone (I)

PERIODICAL: Zhurnal prikladnoy khimii, v. 36, no. 1,  
1963, 192 - 195

TEXT: The present work is the 3rd communication in a series of studies of  $\delta$ -polyketones. Compound I was prepared by adding 9 ml of 34 % formalin to 10 g of cyclohexanone and 20 ml of 0.5 N alcoholic NaOH, at 70 - 75°C, over 30 min, with vigorous stirring. After cooling, the reaction mixture was neutralized with 5 ml of 10 % HCl ( to a weakly acid reaction to Congo red ). The resulting solid product (9.5 g) was washed with water by decantation and was dried in vacuo. The compound was white, amorphous, soluble in benzene but almost insoluble in cold alcohol, and had a melting range from 116 to 159°C. A second fraction was obtained from the mother liquor by evaporating

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Synthesis and some ...

off alcohol and adding water. The ir spectrum of I was characterized by  $1725\text{ cm}^{-1}$ ,  $2926\text{ cm}^{-1}$  and  $2860\text{ cm}^{-1}$  bands ( $\text{C=O}$  and  $-\text{CH}_2-$ -groups). The compound exhibited halochromic effects in conc.  $\text{H}_2\text{SO}_4$  and in 85 %  $\text{HCOOH}$ , giving red colorations. The reaction with  $\text{HCOOH}$  is characteristic of polyketones of structure I, i.e.



There are 2 figures.

ASSOCIATION: Kafedra organicheskoy khimii Dal'nevostochnogo gosudarstvennogo universiteta, Vladivostok  
(Department of Organic Chemistry of the Far East State University, Vladivostok)

SUBMITTED: August 1, 1961

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EPF(c)/EMT(m)/BDS Pr-4 RM/WW

ACCESSION NR: AP3000189

S/0030/63/035/004/03;0/0395

58

57

AUTHOR: Tilichenko, M. N.; Domanyuk, T. M.

TITLE: Functional reactions of polymethylene-polycyclohexanone 7

SOURCE: Zhurnal prikladnoy khimii, v. 36, no. 4, 1963, 890-895

TOPIC TAGS: polymethylene-polycyclohexanone, carbonyl reagents, CO-groups, dinitrophenylhydrazine, hydroxylamine, perhydroacridine, octahydroacridine

ABSTRACT: The authors studied reactions of polymethylene-polycyclohexanone (PMPC) with some carbonyl reagents. Only the two terminal carbonyl groups of PMPC reacted with 2,4-dinitrophenylhydrazine, while 40-60% of the CO-groups in the chain reacted with hydroxylamine. In a modified Leuckart reaction with formamide, PMPC gave an almost quantitative yield of the perhydroacridine. The polyketone was dissolved in a 1:1 mixture of glacial acetic acid and 85% formic acid with gradual addition of formic acid and heated to 160°C for 10 hours so that the acid was distilled over. PMPC gave the octahydroacridine in the Chichibabin reaction with ammonium acetate in glacial acetic acid. IR spectra of all compounds are presented. Both the perhydroacridine and octahydroacridine had an antihypnotic action on the central nervous system and were effective

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insecticides. In both the Leuckart and Chichibabin reactions, 1-3 keto groups did not react. Orig. art. has: 1 figure and 2 tables.

ASSOCIATION: Laboratoriya organicheskogo sinteza dal'nevostochnogo filiala Sibirskogo otdeleniya AN SSSR (Laboratory of Organic Synthesis, Far Eastern Branch, Siberian Department AN SSSR, Vladivostok)

SUBMITTED: 10Aug61 DATE ACQ: 12Jun63 ENCL: 00

SUB CODE: CH NO REF SOV: 008 OTHER.: 002

\* Card 2/2

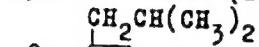
S/081/62/000/021/015,069  
B156/B101

AUTHORS: Tilicenco, M. N., Bădită, Gh., Bărbulescu, N.

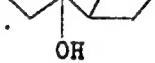
TITLE: Condensation of cyclohexanone with isovaleraldehyde

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 21, 1962, 141, abstract  
21Zh95 (An. Rom.-Sov. Ser. chim., v. 16, no. 4, 1961, 31 - 48  
[Rum.; summary in Russ.])

TEXT: When cyclohexanone (I) is condensed with  $(CH_3)_2CHCH_2CHO$  (II), the normal products of diketonic condensation are formed:  $\alpha$ -isoamylidene cyclohexanone (III),  $\alpha,\alpha$ -isoamylidene-bis-cyclohexanone (IV) and (V):



(V). Evidently substitution in the  $\gamma$ -position of the aldehyde



only reduces the reacting power of the intermediate product III by comparison with that of the product of condensation of I with  $(CH_3)_2CHCHO$ .

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Condensation of cyclohexanone with...

Reduction of III resulted in the production of isoamyl cyclohexanone (VI). Ozonization showed that  $\alpha,\beta$ -C-C-bonds were present. III is converted into V by the Michael reaction. When V is distilled in vacuo in the presence of OH ions, it is converted into IV, forming two dioximes with melting points of 182 - 184°C (VIIa) and 146 - 148°C (VIIb). The saturation of a solution of VIIa in a mixture of C<sub>6</sub>H<sub>6</sub> and alcohol with HCl provides 9-iso-butyl octahydro acridine (VIII). Within 4 hrs, 1.5 moles of II are added to 5 moles of I in 500 ml of 1 N NaOH in boiling alcohol; after 12 hrs ~3/4 of the solvent is distilled off; six days later, 40 % of V, C<sub>17</sub>H<sub>28</sub>O<sub>2</sub>, m.p. 162 - 163°C (from benzene), is separated. The filtrate is neutralized using phenolphthalein as an indicator), and 401 g of an oily liquid is drawn off with ether; distilling this liquid produces 17.5 g III, C<sub>11</sub>H<sub>18</sub>O, b.p. 98 - 100°C/1 mm Hg, n<sub>D</sub><sup>20</sup> 1.4800, d<sub>4</sub><sup>20</sup> 0.9417, semicarbazone (SC), m.p. 150 - 152°C (from alcohol), and 8 % IV, b.p. 198 - 201°C/mm Hg, n<sub>D</sub><sup>20</sup> 1.5080. If the IV separated is treated with 40 ml of an alcoholic solution of NaOH, 31 g V are obtained. If 5 g III are hydrogenated in 10 ml absolute alcohol over 0.5 g of Pt-catalyst (760 mm, 0°C, 3.5 hrs, 670 ml H<sub>2</sub>), 4.7 g VI,

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Condensation of cyclohexanone with...

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$C_{11}H_{20}O$ , is separated, b.p. 95 - 96.5°C/2.5 mm Hg,  $n_D^{20}$  1.4580,  $d_4^{20}$  0.9085; SC, m.p. 139 - 140°C (from alcohol). Ozonized  $O_2$  (5 %  $O_3$ ) is passed through 5 g III in 20 ml  $CHCl_3$ , at 70°C for 4 hrs. The result is left for 12 hrs and cooled gradually to 20°C; at 47°C 10 ml water are added and the  $CHCl_3$  and the II formed during the ozonizing are distilled off with vapor (II is identified as a dimedone derivative after separating the bisulfite derivative from the organic layer of the distillate); the residue is found to contain adipic acid, m.p. 149 - 151°C. To 5 g III and 10 g I at 24°C are added 10 ml of 1 N NaOH in alcohol (in 10 min, the temperature increases to 40°C); six days later, V is drawn off by adding water. 100 g unpurified V are distilled in vacuo, and 95.5 g IV are obtained, b.p. 208 - 210°C/5 mm Hg,  $n_D^{20}$  1.5010. 90 g IV are added to a solution of 90 g crystalline  $CH_3COONa$  and 60 g  $NH_2OH \cdot HCl$  in 500 ml 90 % alcohol; the mixture is boiled for 20 min, 200 ml of the solvent distilled off, and separation carried out in 1 l water; the result is 96 % of a mixture of VIIa and VIIb,  $C_{17}H_{18}N_2O_2$ ; recrystallization from the alcohol produces 80 g VIIa

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